

The embodiments of the invention in which an exclusive property or privilege is claimed are defined as follows:

1. A method for conveying, mixing, and leveling dewatered pulp suitable for drying, comprising:
 - introducing dewatered pulp to a rotating shaftless screw conveyor;
 - depositing said dewatered pulp from said shaftless screw conveyor to a moving belt conveyor, thereby forming uneven quantities of pulp along a length of belt conveyor;
 - leveling the uneven quantities of pulp to produce a substantially even quantity of pulp along a length of the belt conveyor; and
 - feeding a substantially even quantity of pulp per unit time from the belt conveyor to a pulp flaker to reduce the size of pulp into pulp flakes.
2. The method of Claim 1, further comprising drying said pulp flakes in a dryer.
3. The method of Claim 1, further comprising drying said pulp flakes in a jet dryer.
4. The method of Claim 1, wherein said dewatered pulp has been treated with at least one of surfactants, cross linking agents, hydrophobic agents, mineral particulates, superplasticizers, and foams.
5. The method of Claim 1, wherein said dewatered pulp is dewatered in a screw press prior to introducing into the shaftless screw conveyor.
6. The method of Claim 1, wherein said pulp flakes are, on average, a size from about one-sixteenth to about one-half of an inch.
7. A method for mixing and leveling dewatered pulp suitable for drying, comprising:
 - conveying and mixing dewatered pulp; and
 - leveling the pulp coming from the mixer and/or conveyor to produce a substantially even rate of mass flow of pulp; and

thereafter, depositing the pulp in a substantially even rate of mass flow into a pulp flaker to produce pulp fibers, wherein the pulp flaker has two rotors rotating at a speed differential.

8. The method of Claim 7, further comprising drying said pulp flakes in a dryer.

9. The method of Claim 7, further comprising drying said pulp flakes in a jet dryer.

10. The method of Claim 7, wherein said dewatered pulp has been treated with at least one of surfactants, cross linking agents, hydrophobic agents, mineral particulates, superplasticizers, and foams.

11. The method of Claim 7, wherein said pulp flakes are on average a size from about one-sixteenth to about one-half of an inch.

12. The method of Claim 7, wherein said conveying and mixing occur simultaneously.

13. The method of Claim 7, wherein conveying and mixing is done in a shaftless screw conveyor.

14. The method of Claim 7, wherein leveling is done by a chute and rotary doctor.

15. A system for producing singulated pulp fibers, comprising:
a shaftless screw conveyor for mixing and conveying dewatered pulp;
a belt conveyor configured to receive the pulp from said shaftless screw conveyor;
a rotary doctor located above said belt conveyor for leveling the pulp deposited on said belt conveyor into substantially even quantities of pulp along a length of belt conveyor;

a pulp flaker configured to receive a substantially even rate of mass flow of pulp from said belt conveyor; and

a jet drier configured to receive said pulp from said pulp flaker.

16. The system of Claim 15, wherein the pulp flaker comprises:
a housing configured with an inlet and an outlet;
a first and second rotor within said housing, said rotors parallel to one another;
and

a plurality of fingers on each of said rotors, said fingers circumferentially and longitudinally arranged on said rotors, wherein the fingers of one rotor pass interspaced between the fingers of the second rotor in the region between rotors.

17. The system of Claim 15, wherein said rotary doctor height above the belt conveyor is adjustable.

18. The system of Claim 15, wherein said pulp flaker has at least two rotors, said rotors configured to rotate in opposite directions at a speed differential.